Applicant: John David Fraser et al Attorney's Docket No.: 12669-002001 / MK504269-

003

Serial No.: 10/006,797

Filed: December 4, 2001

Page : 2 of 11

## Amendments to the Claims:

The following listing of claims replaces all prior versions and listings of claims in the application:

## 1. (Cancelled)

- 2. (Currently amended) A conjugate An immunomodulator which comprises an antigen-presenting cell (APC) targeting molecule coupled to an antigen, wherein said APC-targeting molecule includes a Class II MHC binding site and a T-cell receptor binding site of a superantigen, the T-cell binding site having one or more mutations that reduce its T-cell proliferation activity compared to the wild type T-cell receptor binding site, and wherein the conjugate binds to a Class II MHC molecules.
- 3. (Currently amended) <u>A conjugate An immunomodulator</u> according to claim 2, wherein the mutation of the T-cell receptor binding site is a substitution, deletion or addition.
- 4. (Currently amended) A conjugate An immunomodulator according to claim 2, wherein the T-cell binding site of the antigen-presenting cell (APC) targeting molecule has been deleted.
- 5. (Currently amended) A conjugate An immunomodulator according to claim 2, wherein the antigen-presenting cell (APC) targeting molecule is derived from *Staphylococcus* aureus and/or *Streptococcus pyogenes*.
- 6. (Currently Amended) <u>A conjugate An immunomodulator</u> according to claim 5, wherein antigen-presenting cell (APC) targeting molecule is derived from SPE-C.
- 7. (Withdrawn) An immunomodulator according to claim 6, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A as herein defined.

Applicant: John David Fraser et al Attorney's Docket No.: 12669-002001 / MK504269-003

Serial No.: 10/006,797

Filed : December 4, 2001

Page : 3 of 11

8. (Withdrawn) An immunomodulator according to claim 6, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A R181Q.

- 9. (Withdrawn) An immunomodulator according to claim 6, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q.
- 10. (Currently amended) A conjugate An immunomodulator according to claim 2, wherein the antigen-presenting- cell (APC) targeting molecule is coupled reversibly to an antigen.
- 11. (Currently amended) A conjugate An immunomodulator according to claim 2, wherein the antigen is a protein, a polypeptide and/or a peptide.
  - 12. (Cancelled)
- 13. (Currently Amended) A conjugate An immunomodulator according to claim 2, wherein the antigen is non-immunogenic when not coupled to the antigen-presenting cell (APC) targeting molecule.
- 14. (Withdrawn) An immunomodulator according to claim 4, wherein the antigen-presenting cell (APC) targeting molecule is SPEC (-20-90).
- 15. (Currently Amended) Pharmaceutical composition comprising a conjugate an immunomodulator according to claim 2 and a pharmaceutically acceptable carrier, adjuvant, excipient and/or solvent.
- 16. (Currently amended) Vaccine comprising a conjugate an immunomodulator according to claim 2.

Attorney's Docket No.: 12669-002001 / MK504269-Applicant: John David Fraser et al 003

Serial No.: 10/006,797

Filed : December 4, 2001

Page : 4 of 11

17. (Withdrawn) Method of therapeutic or prophylactic treatment of a disorder which requires the induction or stimulation of the immune system, comprising the administration to a subject requiring such treatment of an immunomodulator according to claim 2.

(Withdrawn) A method according to claim 17, wherein the disorder is selected 18. from the group consisting of bacterial, viral, fungal or parasitic infection, autoimmunity, allergy and/or pre-neoplastic or neoplastic transformation.

## 19-20. (Cancelled)

- (Withdrawn) Method of preparing an immunomodulator comprising the steps of: 21.
- introducing a modification and/or a deletion into the T-cell binding site of an (a) antigen-presenting cell (APC) targeting molecule which is structurally a superantigen, and
  - (b) coupling thereto and immunomodulatory antigen.
- (Withdrawn) A method according to claim 21, wherein the antigen-presenting cell 22. (APC) targeting molecule is selected from the group of SPE-C, SMEZ and SEA.
- 23. (Withdrawn) A method according to claim 21, wherein the antigen-presenting cell (APC) targeting molecule is SPE-C Y15A R181Q.
- 24. (Withdrawn) A method according to claim 21, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q.
- 25. (Withdrawn) A method according to claim 21, wherein the antigen-presenting cell (APC) targeting molecule is SPEC (-20-90).

Attorney's Docket No.: 12669-002001 / MK504269-Applicant: John David Fraser et al 003

Serial No.: 10/006,797

: December 4, 2001 Filed

Page : 5 of 11

(Withdrawn) Method of increasing antigenicity of a compound, comprising the 26. coupling of said compound to an antigen-presenting-cell (APC) targeting molecule, wherein said APC-targeting molecule mimics a superantigen but does not include a fully functional T-cell receptor binding site.

- 27. (Withdrawn) A method according to claim 26, wherein said APC-targeting molecule is a molecule which is structurally a superantigen but for a disrupted T-cell receptor binding site such that the molecule has little or no ability to activate T-cells.
- 28. (Withdrawn) A method according to claim 26, wherein the T-cell receptor binding site, or at least a part thereof, of the antigen-presenting-cell (APC) targeting molecule has been modified by substitution or addition.
- 29. (Withdrawn) A method according to claim 26, wherein the T-cell binding site of the antigen-presenting cell (APC) targeting molecule has been deleted.
- 30. (Withdrawn) A method according to claim 26, wherein the antigen-presenting cell (APC) targeting molecule is derived from Staphylococcus aureus and/or Streptococcus pyogenes.
- 31. (Withdrawn) A method according to claim 30, wherein antigen-presenting cell (APC) targeting molecule is derived from SPE-C, SMEZ and/or SEA.
- 32. (Withdrawn) A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A as herein defined.
- 33. (Withdrawn) A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A R181Q.

Applicant: John David Fraser et al Attorney's Docket No.: 12669-002001 / MK504269-003

Serial No.: 10/006,797

: December 4, 2001 Filed

Page : 6 of 11

34. (Withdrawn) A method according to claim 31, wherein the antigen-presenting cell (APC) targeting molecule is designated SPEC-Y15A.C27S.N79C.R181Q

- (Withdrawn) A method according to claim 31, wherein the antigen-presenting 35. cell (APC) targeting molecule is SPEC (-20-90).
- (Withdrawn) A method according to claim 26, wherein the antigen-presenting-36. cell (APC) targeting molecule is coupled reversibly to said compound.
- (Withdrawn) A method according to claim 26, wherein the compound is selected 37. from the group consisting of a protein, a polypeptide and/or a peptide, a carbohydrate or a nucleic acid.
- (Withdrawn) A method according to claim 26, wherein the compound is non-38. immunogenic when not coupled to the antigen-presenting cell (APC) targeting molecule.
- 39. (Currently Amended) A conjugate An immunomodulator according to claim 2, wherein the mutated T-cell receptor binding site reduces the T-cell proliferation activity to equal to or greater than 10,000 fold folds compared to the wild type T-cell receptor binding site.